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**U.S. EPA  
Region V**

**Gary, Indiana  
August, 1986**

## ANNOUNCING A SUPERFUND PROJECT UPDATE MEETING

### Site:

Lake Sandy Jo Landfill  
Gary, Indiana

### Meeting Date:

August 20, 1986  
7:00 p.m.

### Location:

Gary Redevelopment Commission  
Project Area Committee Office  
2502 Grant St., Gary Indiana

## INTRODUCTION

The U.S. Environmental Protection Agency (EPA) and the Indiana Department of Environmental Management (IDEM) began remedial planning activities at the Lake Sandy Jo Landfill site in November 1984. The Remedial Investigation (RI), which contains the findings and analysis of field investigation activities, was completed in January 1986. The purpose of the RI was to determine the seriousness and extent of suspected soil, surface water, and groundwater pollution at the Lake Sandy Jo site. The Exposure Assessment (a special section in the RI report) examined whether there would be a threat to human health and the environment if no actions were taken at the site.

On July 10, 1986, the EPA began its review of a Feasibility Study (FS) in which six alternatives for site cleanup were developed. The public is invited to comment on the FS and the remedial alternatives described within it.

This fact sheet summarizes what has been learned about the pollution at the Lake Sandy Jo site, and outlines the six methods proposed in the FS to protect people and the environment.

## SITE BACKGROUND

The Lake Sandy Jo Landfill site is located at 3615 West 25th Avenue in the City of Gary, Lake County, Indiana. The former Lake Sandy Jo was a water-filled pit (about 50 acres) dug in the early 1960's. In 1971, the site was first used as a landfill. During the following 9 years, the lake was filled

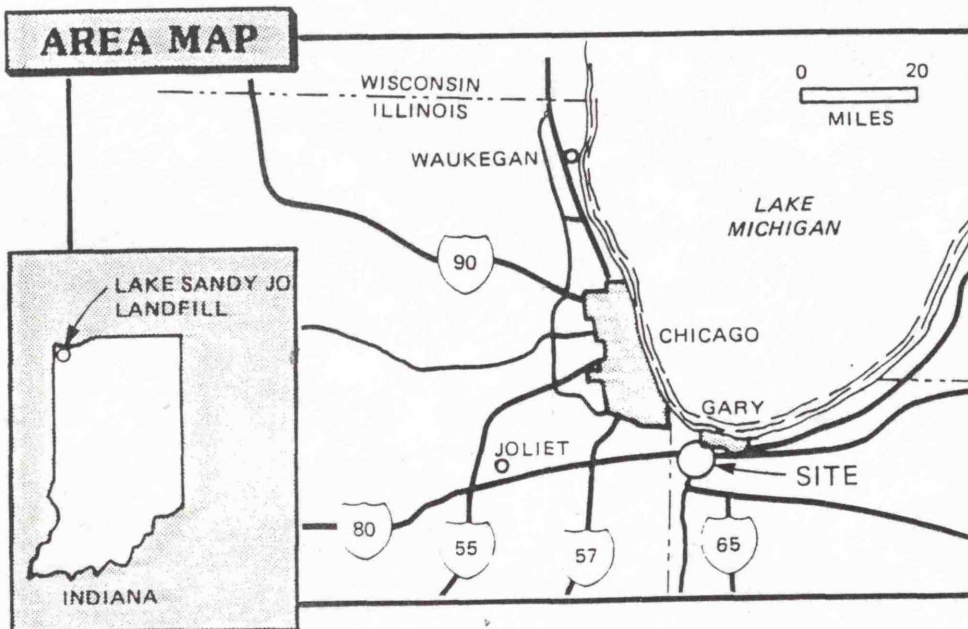
mostly with construction and demolition debris. There is evidence, however, that some hazardous wastes were illegally dumped at the site.

Landfill operations officially ended in 1980. State of Indiana officials and the EPA noted numerous problems throughout the landfill's operating history. The problems included unauthorized waste dumping, water pollution, onsite fires, and incomplete covering of wastes. Investigations by the state and the EPA led to the inclusion of the Lake Sandy Jo Landfill site on the National Priorities List. This made the site eligible for cleanup under the U.S. EPA Superfund program.

## RESULTS OF THE REMEDIAL INVESTIGATION

The landfill is not the only source of environmental pollution in the area near the Lake Sandy Jo site. Background pollution (pollution not from the site) is present because of the nearby Tri-State Highway, and because of the site's urban setting in general. Care was taken during the RI, therefore, to determine the extent of the pollution caused only by the landfill.

The RI confirmed that concentrations of certain organic and inorganic compounds in soil, groundwater, and



surface water exceeded normal (background) levels. Pollutants found at the site included traces of the metals chromium, copper, and lead, and some organic compounds like benzo(a)-pyrene and benzene.

An important consideration at the Lake Sandy Jo site is the long-term protection of the area's groundwater aquifer (see glossary). Water in monitoring wells closest to the site contains very low levels of volatile organic compounds (VOC's) and metals

that probably entered the aquifer from the landfill.

The extent of the polluted groundwater and sediment is shown on the site map. The water pumped from nearby residential wells currently meets health standards, but does not meet standards for color, taste, and odor. If the polluted groundwater is not monitored or treated, further deterioration of drinking water and area rivers and streams is possible.

The Exposure Assessment in the RI report concluded that if no attempt was made to clean up the landfill site, the pollution there could eventually create unacceptable health risks. The Exposure Assessment was based on the assumption that the site might be used for both residential and industrial/commercial development.

## THE FEASIBILITY STUDY

Various methods for preventing human exposure to pollutants at the Lake Sandy Jo site were evaluated in the FS. Each alternative was evaluated according to how well it would protect public health and the environment, how much it would cost, and how easily it could be put in place and maintained.

Six remedial alternatives were selected for final consideration. They represent a range of actions that could be taken at the site. The EPA will choose an alternative that is cost effective and best protects human health and the environment.

Each remedial alternative described below would cause minor disruptions during the construction and operation phases. Construction of a cap over the landfill, for example, would create truck traffic, and some dust and noise. The alternatives also require restrictions on the use of the land at the site. This will make it impossible to develop and use the land for residential or business purposes.

Each alternative (except the no action alternative) includes groundwater and surface water monitoring at and near the site. If the monitoring program reveals that an alternative is not working as expected, more action may be necessary.

For comparison, the cost estimates are based on 30 years of operation. Certain components of these plans may have to be operated for more than 30 years to provide long-term protection for human health and the environment.

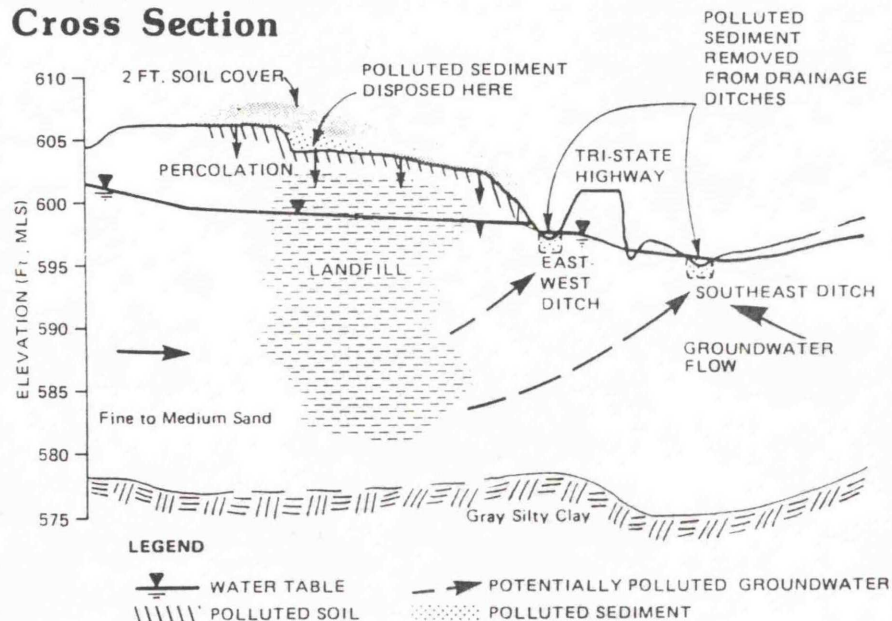
### Alternative 1: No Action

This alternative would leave the site in its present state. No action would be taken to reduce movement of pollutants away from the landfill or through the aquifer. The no action alternative is not recommended because the Exposure Assessment concluded that no action could adversely affect public health and the environment.

### Alternative 2: Access Restriction, Soil Cap

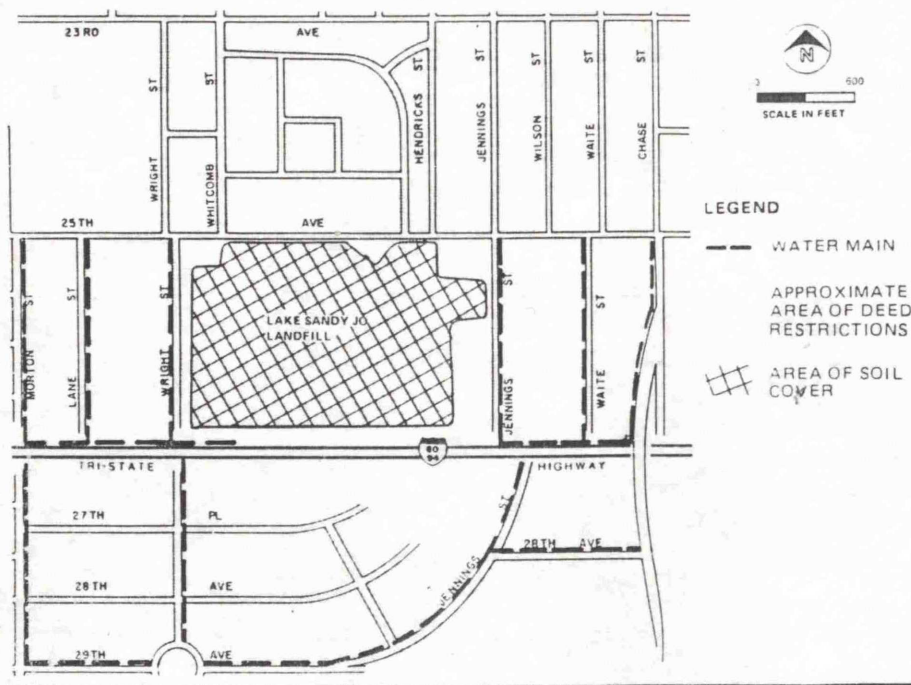
- Rewrite the deed to prevent site access and development. Maintain a security fence sufficient to meet deed requirements.
- Construct a 2-foot-thick layer of soil (cap) over the landfill, and plant grass over the area.

## Conceptual North-South Cross Section

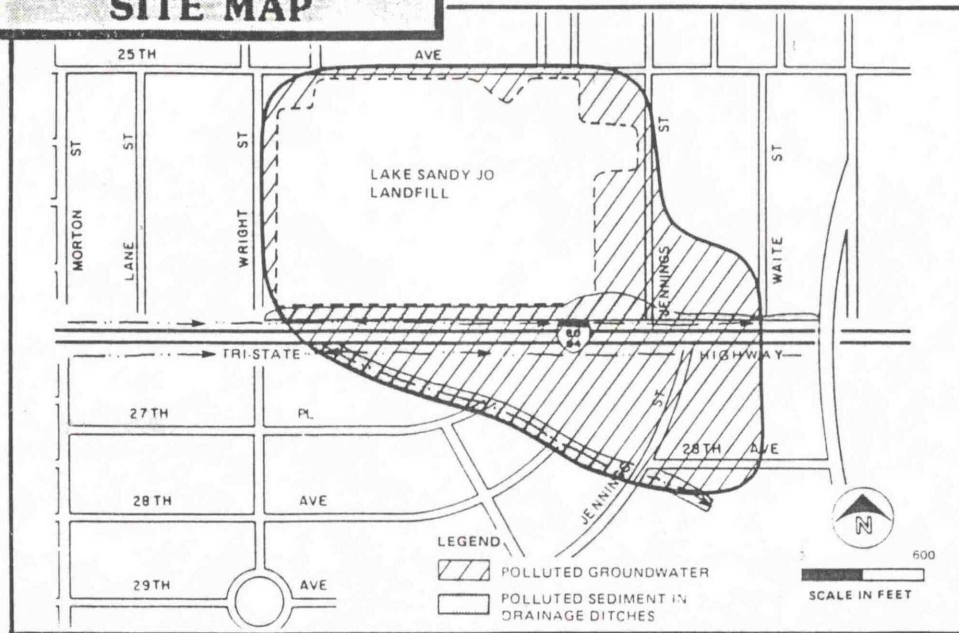


## ALTERNATIVE 3

### Water Supply - with Soil Cover & Access Restrictions



## SITE MAP



- Remove polluted sediment from the drainage ditches south of the landfill and dispose of on the landfill site below the soil cap.

Deed restrictions would prohibit the construction of wells on the site and would restrict unauthorized access and development. The action would prevent direct human contact with surface pollutants and would limit their potential movement into the atmosphere and surface water. The potential for release of pollutants into groundwater, however, would not be reduced by Alternative 2. The estimated cost is about \$3 million.

### Alternative 3: Access Restriction, Soil Cap, Alternative Water Supply

- Deed restrictions (as in Alternative 2).
- Construct a soil cap (as in Alternative 2).
- Remove and dispose of polluted sediment below the cap (as in Alternative 2).
- Extend a piped water distribution system to area residents.

This alternative is the same as Alternative 2, except for the extension of the piped water distribution system. Potential human exposure to pollutants in drinking water is prevented

because of the new water supply, but the potential for release of pollutants into groundwater near the site would not be reduced. The estimated cost for this alternative is \$5 million.

### Alternative 4: Groundwater Flow Control, Soil or Multilayer Cap

- Deed restrictions (as in Alternative 2).
- Construct a soil cap or a multilayer cap over the landfill.
- Remove and dispose of polluted sediment below the cap (as in Alternative 2).
- Control groundwater flow.

Alternative 4 includes an optional cap design referred to as a multilayer cap. If used, the multilayer design would provide a greater level of environmental protection than the soil cap. It would keep rainfall from percolating through the landfill and would slightly reduce the chance for area groundwater to become polluted.

Groundwater flow would be controlled by installing 10 pumping wells around the site. The wells would cause area groundwater to flow toward the site and into the wells. This would prevent movement of polluted groundwater and would protect private drinking water supplies offsite. The wells would be operated for at least 30 years, and would require periodic maintenance.

Alternative 4 should prevent the movement of polluted groundwater offsite. The estimated cost is about \$4 million with a soil cap, and about \$12 million with a multilayer cap.

### Alternative 5: Groundwater Exclusion, Soil or Multilayer Cap, Slurry Wall

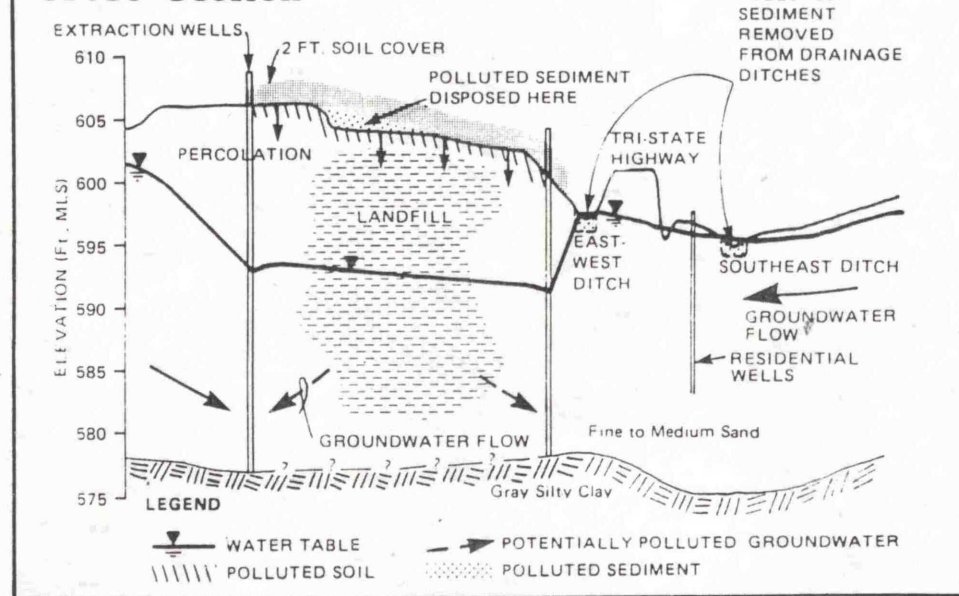
- Deed restrictions (as in Alternative 2).
- Construct a soil cap (as in Alternative 2).
- Remove and dispose of polluted sediment below the cap (as in Alternative 2).
- Contain and pump out polluted groundwater.

Under Alternative 5, groundwater below the site would be contained by constructing an underground barrier called a slurry wall (see glossary). Groundwater flowing through the slurry wall would be captured by two onsite wells. As in Alternative 4, the pumping system would probably be operated for more than 30 years.

Maintenance requirements are reduced under this alternative because the slurry wall reduces the amount of groundwater flowing through the landfill and requiring treatment. Use of the multilayer cap would also reduce groundwater flow through the landfill. The estimated cost is about \$8 million with a soil cap, and about \$16 million with a multilayer cap.

## ALTERNATIVE 4

### Conceptual North-South Cross Section



### Alternative 6: Landfill Dewatering, Multilayer Cap, Slurry Wall

- Deed restrictions (as in Alternative 2).
- Construct a multilayer cap.
- Remove and dispose of polluted sediment below the cap (as in Alternative 2).
- Contain groundwater (as in Alternative 5)
- Dewater landfill.

As in Alternative 5, a slurry wall would be constructed around the site. Sixty wells would be installed inside of the slurry wall. These wells would be pumped for 2 to 3 years to dewater the landfill (remove all the water from it). After the landfill is dewatered, only a small amount of groundwater would be able to flow through the landfill. The landfill could then be kept dewatered by pumping the wells at a reduced rate.

This alternative prevents future pollution of offsite groundwater because it eliminates contact between groundwater and wastes in the landfill. Alternative 6 is expected to cost about \$16 million.

## ALTERNATIVES FOR GROUNDWATER TREATMENT

Alternatives 4, 5, and 6 involve pumping polluted groundwater from the landfill, which must be treated in one of three ways:

- Discharge water to municipal wastewater treatment facility.
- Treat water onsite to remove contaminants.
- Collect and move water offsite for treatment.

Each of these methods for disposal of the polluted groundwater will be considered if Alternatives 4, 5, or 6 are selected. The cost for the water treatment method would be added to the cost of the selected alternative.

## EPA REVIEW AND PUBLIC COMMENT

U.S. EPA has not yet decided which cleanup alternative is best for the Lake Sandy Jo site; but its review of the FS is continuing. Part of the selection and design process involves comment from outside the Agency. Residents near the Lake Sandy Jo site and other interested persons are invited to comment on the alternatives presented in the FS.

Copies of the FS are available at:

Gary Redevelopment Commission  
Project Area Committee Office  
2502 Grant Street  
Gary, Indiana 46406

Gary City Hall  
Press Room, Second Floor  
Fourth and Broadway  
Gary, Indiana 46408

U.S. EPA will accept written comments on the Lake Sandy Jo Landfill site FS from August 15 until September 5, 1986. Both oral and written comments will be accepted at the public meeting at 7 p.m., Wednesday, August 20, 1986 at the Project Area Committee Office, 2502 Grant Street, Gary, Indiana.

Following the public comment period, U.S. EPA will consider all comments and make any necessary changes. Design and construction of the remedy will be initiated when the Superfund law is reauthorized and new funds are available.

If there are any questions, the following U.S. EPA or IDEM staff may be contacted:

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Environmental Management  
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## GLOSSARY

**Aquifer** — A particular zone or layer of rock or soil below the ground surface that holds water and is capable of producing usable quantities of groundwater to wells and springs.

**Groundwater** — Underground water that is stored in soil or openings in rock.

**Inorganic Compounds** — Compounds composed of mineral materials,

including elemental salts and metals such as arsenic, iron, and beryllium.

**Organic Compounds** — Compounds composed of carbon, including materials such as solvents, oils, and pesticides. Examples of organic compounds include benzo(a)-pyrene, and benzene.

**Slurry Wall** — A groundwater barrier formed by injecting materials into the ground along a line. Slurry walls are often used to slow down or redirect the flow of groundwater.

**Volatile Organic Compounds (VOC's)** — A group of organic compounds characterized by their greater tendency to evaporate.

## MAILING LIST ADDITIONS

Anyone wishing to be placed on the Lake Sandy Jo Landfill mailing list, please fill out, detach, and mail this form to:

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Name: \_\_\_\_\_

Address: \_\_\_\_\_

Affiliation: \_\_\_\_\_

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